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10/660,449	09/11/2003	Warren E. Cory	X-1214 US	4907
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XILINX, INC				
ATTN: LEGAL DEPARTMENT				
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SAN JOSE, CA 95124				
EXAMINER				
NGUYEN, TANH Q				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/660,449

Applicant(s)

CORY ET AL.

Examiner

TANH Q. NGUYEN

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
4a) Of the above claim(s) 11-43 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-85/86)
Paper No(s)/Mail Date 09/11/03; 02/10/04
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I (claims 1-10) in the reply filed on August 14, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 11-43 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions or species, there being no allowable generic or linking claim.

Information Disclosure Statement

2. The information disclosure statement filed September 11, 2003 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. **Applicant needs to submit the documents - if applicant still wishes to have the documents considered.**

3. The information disclosure statement filed February 10, 2004 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the documents listed are not US Patents (i.e. the documents do not have respective US patent numbers). It has been placed in the application file, but the information referred to therein has not

been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a). **Since applicant has already submitted the documents, only a new list is required with a correspondence indicating that the documents were submitted on February 10, 2004.**

Oath/Declaration

4. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it does not identify the city and either state or foreign country of residence of each inventor. The residence information may be provided on either an application data sheet or supplemental oath or declaration. **Note that the current declaration and the current application data sheet only have one address, and it is not clear whether the address is a mailing address or a residence address.**

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 4 recites "the control is further operable to decrement the read address when the amount of data is determined to be less than the nominal level". The claim is not enabled because claim 3 requires "the controller is further operable to at least hold the read address of the read pointer when the amount of data is determined to be less than the nominal level" and because the controller cannot hold the read address and decrement the read address at the same time.

8. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. See the rejection under 112 first paragraph of claim 4 above. Note further that there is insufficient antecedent basis for "the control".

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang (US 5,563,891).

11. As per claim 1, Wang teaches a buffer circuit [FIG. 6] comprising:

a plurality of memory locations to hold data [col. 8, line 42];

the memory locations of the plurality of memory locations addressable across an address space (addressable space is depth of the buffer);

a read pointer [125, FIG. 6] to point a read address of the plurality of memory locations from which to read output data;

a write pointer [115, FIG. 6] to point a write address of the plurality of memory locations in which to write input data;

the read and write pointers operable responsive to respective read and write clocks [WR CK, RD CK - FIG. 6] to sequence the read and write addresses across the address space of the plurality of memory locations;

a control register [155, FIG. 6] to define a nominal level; and

a controller to affect operation of the read pointer dependent on the write address of the write pointer, the read address of the read pointer, and the nominal level [130, 135, 145 - FIG. 6].

12. As per claim 2, Wang teaches the controller operable to determine an amount of data in the buffer circuit based on the difference between the write address and the read address [130, FIG. 6] and enable the read pointer to increase the read address based

on a difference between the amount of data determined and the nominal level [135, 145, 125 - FIG. 6];

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang.

16. As per claims 3-4, Wang teaches preventing underflow and overflow [col. 3, lines 6-7]. Since Wang teaches preventing underflow, it would have been obvious to one of ordinary skill in the art at the time the invention was made to hold the read address of the read pointer or decrement the read address of the read pointer when the amount of

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data is determined to be less than the nominal level because it was known in the art to do so to prevent underflow.

17. As per claim 5, Wang teaches advancing the read address of the read pointer when the amount of data is determined to be greater than the nominal level [col. 2, lines 53-57].

18. As per claim 6, Wang does not specifically teach disabling the clock input to the read pointer and hold the read address when the amount of data is determined to be less than the nominal level. Since it was known in the art to disable a clock input in order to hold a pointer at its current location, it would have been obvious to one of ordinary skill in the art at the time the invention was made to disable the read clock input in order to hold the read pointer at its current address to control buffer underflow (see rejection of claim 3 above).

19. As per claim 7, Wang teaches advancing the read address by adjusting an increment to the read pointer when the amount of data is determined to be greater than the nominal level [col. 8, lines 50-57; col. 8, line 66-col. 9, line 4; col. 10, lines 15-19]; and

20. As per claim 8, Wang does not specifically teach checking if the amount of data determined differs from the nominal level by at least a threshold level before enabling the hold/advancement of the read address. Since it was known in the art to use a first threshold level to prevent underflow and to subsequently resume normal read operations when a second threshold is reached, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a second threshold

level to re-enable the advancement of the read address.

21. As per claim 9, it was known in the art to initialize a buffer by configuring the write pointer and the read pointer to the start address of the buffer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the write pointer and the read pointer to the start address of the buffer when the nominal level is zero - in order to initialize the buffer.

Alternatively, Wang teaches the write pointer and the read pointer being offset by the phase difference between the write pointer and the read pointer [col. 8, lines 50-57; col. 8, line 66-col. 9, line 4; col. 10, lines 15-19].

22. As per claim 10, Wang teaches the address of the read pointer being an address offset from the write pointer, and the offset is equal to the nominal level (see rejection of claim 9 above).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TANH Q. NGUYEN whose telephone number is (571)272-4154. The examiner can normally be reached on M-F 9:30AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on 571-272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tanh Q. Nguyen/
Primary Examiner, Art Unit 2182

TQN
March 17, 2008